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Docket No. 14XZ00124/GEM-0203

REMARKS / ARGUMENTS

Status of Claims

Claims 1-4 and 6-9 are pending in the application and stand rejected. Applicant has canceled Claims 3 and 4, and has amended Claims 1 and 6, leaving Claims 1-2 and 6-9 for consideration upon entry of the present Amendment.

Applicant thanks the Examiner for reconsidering and withdrawing the objections to the specification and claims, and for reconsidering and withdrawing the rejections under 35 U.S.C. §112, first paragraph.

Applicant respectfully submits that the rejections under 35 U.S.C. §103(a) have been traversed, that no new matter has been entered, and that the application is in condition for allowance.

These amendments and accompanying remarks were not presented earlier because Applicant did not fully appreciate the nature of the Examiner's position until the Applicant was advised in more detail of the position by the final rejection. The claim amendments presented herein, which Applicant respectfully requests entry thereof, should require only a cursory review by the Examiner and should not require further consideration or search.

Rejections Under 35 U.S.C. §103(a)

Claims 1, 3, 6, 8 and 9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Siczek et al. (U.S. Patent No. 5,526,394, hereinafter Siczek) in view of Osaki et al. (U.S. Patent No. 5,163,099, hereinafter Osaki) and further in view of Press et al. (NPL document, see PTO-892, hereinafter Press).

Regarding independent Claims 1 and 6, the Examiner acknowledges that Siczek does not expressly disclose the determining of N autocorrelations of the vector of luminous intensity values, performing the Fourier transform on the autocorrelation vector to obtain the energy frequency spectrum and comparing the energy value at the graduated

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marks with a threshold value, and looks to Osaki and Press to cure these deficiencies. Paper No. 04252005, pages 4-6.

Claims 2, 4 and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Siczek in view of Osaki and further in view of Press as applied to Claim 1 above, and further in view of Baxes (NPL document, see PTO-892, hereinafter Baxes).

Applicant traverses these rejections for the following reasons.

Applicant respectfully submits that the obviousness rejection based on the References is improper as the References fail to teach or suggest each and every element of the instant invention. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). The Examiner must meet the burden of establishing that all elements of the invention are taught or suggested in the prior art. MPEP §2143.03.

Regarding Independent Claim 1

Applicant has canceled Claim 3 and has amended Claim 1 to include all the limitations of Claim 3 and more, such that Claim 1 now recites, inter alia,

"A method of automatic detection of a graduated compression paddle used for breast analysis in digital mammography, the method comprising...

...

detecting the paddle; and

unambiguously distinguishing a densest area of the breast from an area of the paddle containing the graduated marks, thereby enabling automatic exposure adjustment based on a most glandular area of the breast;

wherein the acquisition of the image is carried out in an automatic mode, in which an adjustment of the exposure parameters is determined from a table of automatic optimization of parameters (AOP)."

No new matter has been added as antecedent support may be found in the specification as originally filed, such as at Paragraphs [0005], [0020] and [0031] for example. Dependent claims inherit all of the limitations of the parent claim.

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Regarding the limitations of Claim 3, which are now included in Claim 1, the Examiner alleges that Siczek teaches the elements of the claimed invention. Paper No. 0425205, page 6. The Examiner has not applied Osaki, Press and Baxes in alleging obviousness of Claim 3. Applicant agrees with this position, and also submits that Osaki, Press and Baxes do not cure the deficiencies of Siczek in view of the instant amendment.

In addition to the limitation of Claim 3, Applicant also includes the limitation of *unambiguously distinguishing a densest area of the breast from an area of the paddle containing the graduated marks, thereby enabling automatic exposure adjustment based on a most glandular area of the breast*, submits that Siczek is absent any disclosure, teaching or suggestion of this limitation, and further submits that Osaki, Press and Baxes fail to cure this deficiency.

In Paper No. 04252005, page 3, the Examiner remarks that compression paddles are inherently graduated. However, Applicant submits that the claimed invention is not directed merely to graduated compression paddles, but to a method and apparatus for detecting the graduated marks so as to *unambiguously distinguish a densest area of the breast from an area of the paddle containing the graduated marks, thereby enabling automatic exposure adjustment based on a most glandular area of the breast*, which is not disclosed, taught or suggested by the cited prior art.

This amendment should require only a cursory review by the Examiner as the Examiner has already considered that the claims are interpreted in light of the specification (Paper No. 04252005, page 4), and as such should not require further consideration or search.

Regarding Independent Claim 6

Applicant has amended Claim 6 to now recite, inter alia,

“A device for automatic detection of a graduated compression paddle used for breast analysis in digital mammography, the device comprising...

...

means for detection capable of deducing the presence of the paddle from the result of the comparison, and unambiguously distinguishing a densest area of the breast from an

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area of the paddle containing the graduated marks, thereby enabling automatic exposure adjustment based on a most glandular area of the breast."

No new matter has been added as discussed above with regard to Claim 1. Dependent claims inherit all of the limitations of the parent claim.

For all the reasons set forth above with regard to Claim 1, Applicant submits that the claimed limitation of amended Claim 6 is not disclosed, taught or suggested by the cited prior art, taken either singly or in combination.

Regarding the inventions of both independent Claims 1 and 6, Applicant submits that the claimed inventions are not directed merely to graduated compression paddles, but to a method and apparatus for detecting the graduated marks so as to *unambiguously distinguish a densest area of the breast from an area of the paddle containing the graduated marks, thereby enabling automatic exposure adjustment based on a most glandular area of the breast*, which is not disclosed, taught or suggested by the cited prior art.

Here, Applicant is not merely claiming a digital scan apparatus or an imaging apparatus that uses the Fourier transform of the autocorrelation, but instead is claiming a specific method and device for automatic detection of *a graduated compression paddle*, so as to *unambiguously distinguish a densest area of the breast from an area of the paddle containing the graduated marks, thereby enabling automatic exposure adjustment based on a most glandular area of the breast*. Applicant not only finds Siczek to be absent any teaching or suggestion of *a graduated compression paddle, as claimed in the instant invention* so as to *unambiguously distinguish a densest area of the breast from an area of the paddle containing the graduated marks, thereby enabling automatic exposure adjustment based on a most glandular area of the breast*, but also finds Osaki, Press and Baxes to be absent any cure for this deficiency.

Absent a teaching or suggestion of each and every element of the claimed invention, the References cannot properly be combined to establish a prima facie case of obviousness.

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Additionally, Applicant submits that paragraphs [0005], [0020] and [0029-0031] describe the problem addressed and solved by the instant invention and the benefits arrived at by implementing embodiments of the instant invention. Nowhere but in the instant application is the problem associated with the use of a graduated compression paddle in digital mammography recognized and solved, where the solution enables one to *unambiguously distinguish a densest area of the breast from an area of the paddle containing the graduated marks, thereby enabling automatic exposure adjustment based on a most glandular area of the breast*. Accordingly, Applicant submits that Siczek, Osaki, Press, and Baxes, or any combination thereof, lack any teaching of a problem-and-solution associated with the use of a graduated compression paddle in digital mammography, and therefore cannot properly be combined to establish a prima facie case of obviousness.

In view of the foregoing, Applicant submits that the References fail to teach or suggest each and every element of the claimed invention and are therefore wholly inadequate in their teaching of the claimed invention as a whole, fail to motivate one skilled in the art to do what the patent Applicant has done, fail to recognize a problem recognized and solved only by the present invention, fail to offer any reasonable expectation of success in combining the References to perform as the claimed invention performs, and discloses a substantially different invention from the claimed invention, and therefore cannot properly be used to establish a prima facie case of obviousness.

Applicant has amended the claims for presentation in better form for consideration on appeal, and to more clearly reflect Applicant's invention. The claim amendments should only require a cursory review by the Examiner and should not require further consideration or search.

In light of the foregoing remarks and amendments, Applicant respectfully submits that the proposed amendments and arguments comply with 37 C.F.R. §1.116 and should therefore be entered, and with their entry that the Examiner's rejections under 35 U.S.C.

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§103(a) have been traversed, and that the application is now in condition for allowance.
Such action is therefore respectfully requested.

The Commissioner is hereby authorized to charge any additional fees that may be required for this amendment, or credit any overpayment, to Deposit Account No. 50-2513.

In the event that an extension of time is required, or may be required in addition to that requested in a petition for extension of time, the Commissioner is requested to grant a petition for that extension of time that is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to the above identified Deposit Account.

Respectfully submitted,

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